Minnesota Pollution Control Agency

SITE INSPECTION PLAN

General Information

Site Name Hader Ground Water Contamination U.S. EPA ID Number MND981961873

Address Minneola & Belle Creek Townships

City Hader State MN Zip 55027

County Goodhue

Site Representative _____ Title _____ Phone _____

Plan Prepared By Byron Adams Date 11/18/87

Plan Approved By _____ Date _____

Objective (Type of contamination & description of work to be performed):

Elevated metal concentrations above drinking water standards are present in three private wells. Sampling of ten wells in the area of concern is needed to define potential sources of elevated metal concentrations and low pH present in area wells.

Estimated Date of Investigation Feb., 1988

Initial Site Investigation 6/01/87 Site Investigation Follow-Up _____

Preliminary HRS Score of Routes: GW 43.25 SW 2.66 Air _____

Total Preliminary HRS Score 25.05

Projected HRS Score 25.42
(worst case possibility)

Inspection Priority: Low:_____ Medium: X High:_____

Geophysical Data Available: Yes:_____ No: X

Explain: No

Access Agreement Required: Yes:_____ No: X

Site Access arranged by: Sampling of residential wells shall be arranged by MPCA staff on an individual basis with homeowners.

SITE CHARACTERISTICS

I. Site/Facility Description (include Drill Rig accessibility) The site comprises a several section area in Belle Creek and Minneola Townships where private drinking water supplies at farmsteads have shown high metal concentrations and anomously low pH values. Access is not a problem at this stage of the investigation. No drilling is planned at this time.

II. Brief Site History (include past owners) "Poor quality" water was noticed by a resident of Minneola Township in the spring of 1987. Subsequent testing identified low pH and high metal content that was also present in neighboring wells, based on additional testing. A plausible source of contamination has not yet been identified.

III. Site Status (active, inactive) Not applicable.

IV. Features of Concern (power lines, public/private utilities, livestock, fences, terrain, etc.)

Not applicable.

V. Site Map Description USGS, 7.5 minute Quadrangles; Wanamingo, White Rock, Goodhue West, Zumbrota

Site Map Date 1968 Bench Mark on map: Yes____ No X

Closest Bench Mark Location Not applicable - use of well logs and USGS topographic maps is being made to interpret geology and ground water depths.

Bench Mark Elevation _____

Bench Mark Information Source _____

SITE GEOLOGY

I. Surface Soil Type (sand, clay, bedrock): Silt loam (loess) soils cap sedimentary bedrock formations in the area.

Wetlands or Surface Waters on Site (Describe): Belle Creek and tributaries flow to the north and east. A soil conservation service diversion pond is present in the northern end of the zone of concern.

II. Subsurface Stratigraphy

Rock/Soil Type	Thickness	Depth	Saturated/Unsaturated	Contaminated
Silt loam/ Galena Dolomite	10'/ 20-40'	1175 MSL	Aquifer in Galena saturated	Possibly
Decorah Shale Platteville LS	60'/ 20'	1075 1055	No Aquifer	
Glenwood Shale St. Peter SS	5'/ 100'	1050 950	Aquifer - saturated	Possibly
Shakopee DS Oneota DS			Aquifer - saturated	?

Primary Aquifer of Concern: St. Peter - Sandstone

Depth to Ground Water: Galena 30'/ St. Peter 200' Recorded Contamination Yes X No

Ground Water Flow Direction: N-NE Surface Water Flow Direction: N-NE

Ground Water Use in Vicinity: Drinking: X Commercial

Livestock: X Other:

Depth to Bedrock: 10' Depth of Contamination Soil:

III. Contamination Type

Soil (Describe): No known areas of soil contamination have been identified as the source of ground water contamination connected with the wells of concern.

Ground Water (Describe): Metals and low pH are present in several area wells and identification of the affected aquifer and source have not been made.

Surface Water (Describe): No apparent surface water contamination has been identified at this time.

Field Work Required

Zone of Contamination Identified: Yes_____ No__X__ - initial stages

Contamination Zone Outlined on Site Map: Yes__X__ - best guess, at this time

Soil Sampling Required: Yes_____ No__X__ Surface_____ Subsurface_____

Drilling Required: Yes_____ No__X__

Number of Soil Borings Required: __None____

Boring Locations Identified: Yes_____ No_____ Field Determination_____

Estimated Soil Borings Depths:_____

Estimated Soil Sampling Intervals:_____

Estimated Number of Soil Samples to be Obtained for Site:_____

Soil Sampling Fractions: VOA_____ Semi VOA_____ A/B/N_____

Pest/PCB_____ Metals/Cyanide_____ Special_____

Summary of Soil Sampling Procedures:_____

_____

_____

_____

_____

_____

_____

_____

_____

Monitor Wells Required: Yes_____ No__X__

Monitor Well Diameter: 2 Inch_____ 4 Inch_____

Number of Monitor Wells: _____

Number of Monitor Wells Utilizing Soil Boring Location: _____

Depth to Ground Water: 100 - 200' in St. Peter Sandstone

Well Locations Identified: Yes_____ No_____ Field Determination_____

Well Description Included: Yes_____ No_____

Water Sampling Fractions: VOA X Semi VOA X A/B/N_____

Pest/PCB X Metals/Cyanide X Special SAS

Initial Well Development Performed by: Contractor_____ MPCA X

Summary of Sampling Procedures: Sampling of 10 private wells will be performed in the area of concern, considering depth and construction of wells and the aquifers they are screened in. Samples will be collected after stable; temperature, conductivity, and pH have been established in the wells through pumping and prior to water treatment systems. Additionally, SAS analyses are needed to characterize ground water for: pH, chloride, sulfate, and nitrate.

Total Number of Soil Samples:_____ Blanks:_____

Total Number of Ground Water Samples: 10 Blanks: 2

Total Number of Surface Water Samples:_____ Blanks:_____

Piezometer(s) Required: Yes:_____ No: X Number of Piezometers Needed:_____

Piezometer Summary:

Site Investigation Personnel

Team Member	Responsibility
Becky Lofgren	Project Manager
Susan Price	Hydrogeologist

Drilling Contractor

Name of Firm: Prime: Geotechnical Engineering Corp.

Address: 1925 Oakcrest Ave., Roseville, MN

Contact Person Steve Bennett Phone (612) 636-7744

Distance from MPCA Headquarters to Site: 60 miles

Distance from Drilling Contractor to Site: 60 miles

Working Limitations: Access to most wells sampled will depend on cooperation of residents.

Site Safety Plan Completed: Yes X No

Other Comments: